

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2003-SW-35-AD; Amendment 39-13756; AD 2004-15-22]

RIN 2120-AA64

Airworthiness Directives; Sikorsky Aircraft Corporation Model S-61L, S-61N, S-61-NM, and S-61R Helicopters

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD) for the specified Sikorsky Aircraft Corporation (Sikorsky) model helicopters that requires installing a Number 5 bearing chip detector in each engine, installing an on-board chip detector annunciation system, and revising the Rotorcraft Flight Manual (RFM) to add procedures for crew response to an on-board chip detector annunciation. This amendment is prompted by reports of the failure of the engine's Number 5 bearing that resulted in erratic movement of the high-speed engine-to-transmission shaft (shaft), oil leakage, an in-flight fire and an emergency landing. The actions specified by this AD are intended to detect an impending engine bearing (bearing) failure, which, if undetected and not addressed by appropriate crew action, may result in oil leakage, severing of the shaft housing, an uncontained in-flight fire, and a subsequent emergency landing.

DATES: Effective September 7, 2004.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of September 7, 2004.

ADDRESSES: The service information referenced in this AD may be obtained from Sikorsky Aircraft Corporation, Attn: Manager, Commercial Tech Support, 6900 Main Street, Stratford, Connecticut 06614, phone (203) 386-3001, fax (203) 386-5983; and from GE Aircraft Engines Customer Support Center, M/D 285, 1 Neumann Way, Evendale, OH 45215, telephone (513) 552-3272; fax (513) 552-3329, email GEAE.csc@ae.ge.com. This information may be examined at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas; or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to:
http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

FOR FURTHER INFORMATION CONTACT: Kirk Gustafson, Aviation Safety Engineer, Boston Aircraft Certification Office, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803, telephone (781) 238-7190, fax (781) 238-7170.

SUPPLEMENTARY INFORMATION: A proposal to amend 14 CFR part 39 to include an AD for the specified model helicopters was published in the Federal Register on November 24, 2003 (68 FR 65857). That action proposed to require, within 60 days, installing a chip detector for the No. 5 bearing, installing an on-board chip detector annunciation system, and revising the RFM to add procedures for crew response to an on-board chip detector annunciation.

Prior to issuing the proposal, Sikorsky had issued Alert Service Bulletin (ASB) No. 61B30-15, dated June 9, 2003, which describes procedures for installing an on-board cockpit annunciation system that interfaces with the engine chip detectors, as a means to detect metallic chips if deterioration of the Number 5 bearing in either engine occurs. The FAA proposed to incorporate portions of that service information into the AD. Also, General Electric Aircraft Engines has issued GE Aircraft Engines CT58 Service Bulletin Number 72-0195, dated May 1, 2003, which describes procedures for installing an electrical chip detector (either part number 3018T72P01 or 3049T42P01) in the CT58 engine power turbine accessory drive assembly. Since issuing the proposal, Sikorsky has issued ASB No. 61B30-15, Revision A, dated October 20, 2003, which specifies the same procedure, but revises a part number, corrects the drawing, and clarifies the location for the warning light.

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comments received.

The one commenter, the manufacturer, submitted several comments regarding the NPRM. Because Sikorsky has issued a revised ASB to correct minor errors including a part number, a drawing, and installation instructions, they suggest the AD should reference the revised ASB rather than the previously issued ASB. They also suggest that we change the AD to allow use of later, FAA-approved revisions of the ASB to accomplish the AD.

The FAA partially agrees. The FAA will not include language that would allow compliance using "later FAA-approved revisions" of an ASB; however, individual owners and operators may request an alternate method of compliance (AMOC) that would allow use of future revisions of the ASB to comply with the AD. Regarding the revision to the current ASB, the FAA agrees the AD should reference the most recent, correct ASB, and the AD reflects that change.

The same commenter proposes that we change the unsafe condition language in the Summary and Discussion sections of the AD. The commenter states, "The installation of the chip detector and warning light will not PREVENT a bearing failure as stated. Its purpose is solely for the detection of a deteriorating bearing and to notify the crew such that appropriate action can be taken."

The FAA agrees that the chip detector and warning light do not prevent a bearing failure, in that the system inherently depends on early stages of bearing deterioration to trigger the warning system. However, the unsafe condition results from advanced stages of bearing deterioration (complete bearing failure), and this condition may be prevented by providing the crew with emergency procedures that include, if practical, shutting down the affected engine and transitioning to single engine flight when the bearing experiences these early stages of deterioration.

The same commenter states the cost impact estimate stated in the NPRM is inaccurate. The commenter states the cost of parts is \$2,600, resulting in a cost-per-helicopter of \$7,897, or a total fleet cost of \$165,847.

The FAA agrees with the revised costs and we have changed the economic analysis accordingly.

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule with the changes described previously. The FAA has determined that these changes will not increase the scope of the AD. Also, we have determined that an increase in estimated costs of \$659 per helicopter does not constitute a substantial increase of the economic burden on any operator.

The FAA estimates that this AD will affect 21 helicopters of U.S. registry, and the required actions will take approximately 81.5 work hours per helicopter to accomplish at an average labor rate of \$65 per work hour. Required parts will cost approximately \$2,600 per helicopter. Based on these figures, the total estimated cost impact of the AD on U.S. operators is \$7,897 per helicopter, or \$165,847 for the entire fleet.

The regulations adopted herein will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, it is determined that this final rule does not have federalism implications under Executive Order 13132.

For the reasons discussed above, I certify that this action (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained from the Rules Docket at the location provided under the caption ADDRESSES.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. Section 39.13 is amended by adding a new airworthiness directive to read as follows:

AIRWORTHINESS DIRECTIVE

Aircraft Certification Service
Washington, DC



U.S. Department
of Transportation
**Federal Aviation
Administration**

We post ADs on the internet at "www.faa.gov"

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2004-15-22 Sikorsky Aircraft Corporation: Amendment 39-13756. Docket No. 2003-SW-35-AD.

Applicability: Model S-61L, S-61N, S-61-NM, and S-61R helicopters, certificated in any category.

Compliance: Required within 60 days, unless accomplished previously.

To detect an impending engine bearing (bearing) failure, which, if undetected and not addressed by appropriate crew action, may result in oil leakage, severing of the shaft housing, an uncontained in-flight fire, and a subsequent emergency landing, accomplish the following:

(a) Install an engine chip detector, part number 3049T42P01 or 3018T72P01, in the engine power turbine accessory drive assembly using the Accomplishment Instructions, paragraphs 3.A. and 3.B., in General Electric Aircraft Engines CT58 Service Bulletin Number 72-0195, dated May 1, 2003.

(b) Install an on-board engine chip detector annunciation system using Sikorsky Aircraft Corporation Alert Service Bulletin No. 61B30-15, Revision A. dated October 20, 2003 (ASB). For helicopters with a master warning caution panel (MWCP) manufactured by United Controls or Sundstrand Data, install in accordance with paragraph 3.B. of the ASB. For helicopters with a MWCP manufactured by Grimes Mfg., install in accordance with paragraph 3.C. of the ASB.

(c) After accomplishing paragraph (b) of this AD, before further flight, perform a functional test of the engine chip detector system and repeat the functional test at intervals not to exceed 150 hours TIS using the Accomplishment Instructions, paragraph 3.D., of the ASB.

(d) Insert the emergency procedures for an on-board engine chip detector warning light illumination into the Emergency Procedures section of the applicable Rotorcraft Flight Manual using the Accomplishment Instructions, paragraph 3.E., of the ASB.

(e) To request a different method of compliance or a different compliance time for this AD, follow the procedures in 14 CFR 39.19. Contact the Boston Aircraft Certification Office, Engine and Propeller Directorate, FAA, for information about previously approved alternative methods of compliance.

(f) The actions, including installations, testing, and inserting information into the Rotorcraft Flight Manual, shall be done in accordance with General Electric Aircraft Engines CT58 Service Bulletin Number 72-0195, dated May 1, 2003; and Sikorsky Aircraft Corporation Alert Service Bulletin No. 61B30-15, Revision A. dated October 20, 2003. The Director of the Federal Register approved this incorporation by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51.

Copies may be obtained from Sikorsky Aircraft Corporation, Attn: Manager, Commercial Tech Support, 6900 Main Street, Stratford, Connecticut 06614, phone (203) 386-3001, fax (203) 386-5983; and from GE Aircraft Engines Customer Support Center, M/D 285, 1 Neumann Way, Evendale, OH 45215, telephone (513) 552-3272; fax (513) 552-3329, e-mail GEAE.csc@ae.ge.com. Copies may be inspected at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas; or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

(g) This amendment becomes effective on September 7, 2004.

Issued in Fort Worth, Texas, on July 22, 2004.

David A. Downey,
Manager, Rotorcraft Directorate, Aircraft Certification Service.
[FR Doc. 04-17370 Filed 7-30-04; 8:45 am]
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